Winery Energy Saver Toolkit
Industry Profile
Taylors Wines – Air compressor consolidation and solar PV

Background

Taylors is a family own business that has been operating in the Clare Valley, North of Adelaide since 1969. Taylors produce red, white and sparkling wines at their estate and are involved in all aspects of the wine making process. The site consumes just under 1,700,000kWh annually, with a peak in energy consumption during vintage (Feb. – May).

In 2013 they participated in the Winery Energy Saver Toolkit (WEST) program funded by the Australian Government under the Energy Efficiency Information Grants program to help them identify further energy efficiency opportunities.

Opportunities

Taylors goal is to be "Australia's best wine company applying best practise principles in environmental management to enhance sustainable business activities and products". Taylors dedication to environmental management and sustainability is evident through the adoption of an Environmental Management System (EMS) and innovative Strategic Plan. To improve energy efficiency Taylors have previously implemented several energy efficiency measures including; Ammonia Refrigeration Plant Upgrade, Barrel Hall Partition, light weight environmentally friendly glass bottles and green power.

Air compressor consolidation

Taylors commissioned an air audit to determine the air flow requirement for their operations and opportunities for improvement. The audit found that there was little room for improvement on the air compressors which operate the wine press as, "The Wine Press application does not lend itself to the efficient use of Variable Speed Drive (VSD) Compressors during vintage, as they operate at full speed to replenish the Air Receiver after each press Cycle". However a significant opportunity was found in the bottling plant, where two 15kW compressors only run loaded 57% of the time. The audit proposed to replace these two units with one 25kW compressor with VSD, which will meet the air flow requirements of the plant and save an estimated 30% in energy consumption.

What is a Variable Speed Drive?

A Variable Speed Drive (VSD) is an electro-mechanical drive system that can be installed to a motor to reduce or eliminate unload time when the compressor is not pumping air but still consumes electricity. There is the potential to save between 25-35% in energy consumption depending on the size of the VSD unit and the load profile of operations.

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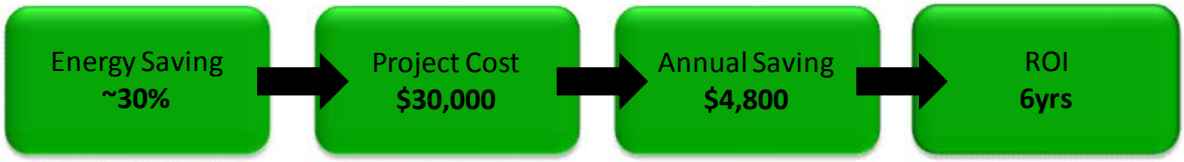
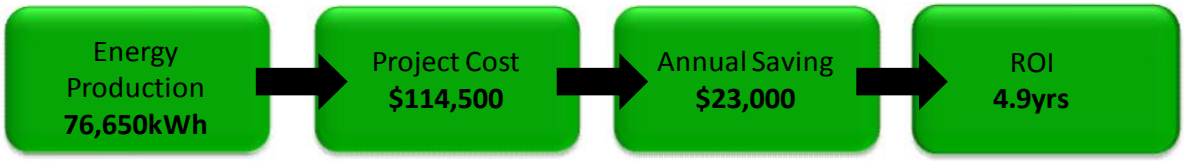


In addition to the energy savings indicated above, the consolidation will avoid additional costs of $20,000 per year associated with foregone maintenance costs of the current compressors (nearing the end of life and require substantial servicing to maintain efficiency). Considering this avoided capital, the ROI is reduced to 2 years.

Solar for wastewater treatment plant

Taylors have identified the need to manage a mitigate greenhouse gas emissions and reduce their carbon footprint. One opportunity that was identified is to offset the peak energy of wastewater treatment plant with solar energy. Scoping from a reputable solar supplier proposed the installation of a 50kW system that has the capacity to produce all the peak energy required. From the initial scoping the following business case was developed:



Outcomes

The proposed projects will help Taylors to achieve their sustainability goals as both projects will contribute to reducing Taylors footprint. Outlined below are the combined potential savings of the projects.

To date these projects are yet to be implemented as Taylors are packaging both projects into a Clean Technology Food and Foundries Investment program application, if successful both projects are scheduled for completion by the end of 2013.

Australian Government Department of Industry

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